

## PATENT

## REMARKS

Introduction:

Claims 1-24 and 26-36 are pending in the present application.

In the above amendments, claims 13, 19, 26-28, 31, 34-35, and 36 have been amended, and claim 25 has been canceled without prejudice. In claims 26-28 and 34-35, the word "operative" has been changed to "configured" to better clarify the scope of the invention and not to distinguish over the prior art of record.

In the Office Action mailed 4/11/2005, the Examiner objected to the Specification, rejected claims 1-2, 8, 10-12, 26-27, and 31 under 35 U.S.C. §103(a) as being unpatentable over Paulraj et al. ("Paulraj") in view of van Nee ("van Nee"), rejected claim 4 under 35 U.S.C. 103(a) as being unpatentable over Paulraj and van Nee and further in view of Cimini et al. ("Cimini"), and rejected claims 19-21, 24, 34, and 36 under 35 U.S.C. 103(a) as being unpatentable over Paulraj in view of Laroia ("Laroia"). In addition, claims 13-18 were allowed, and claims 3, 5-7, 9, 22-23, 25, 28-30, 32-33, and 35 were indicated as reciting allowable subject matter which is gratefully acknowledged by the Applicant. Allowed claim 13 has been amended to correct minor informalities with the claim.

Specification:

Applicant provides herewith amendments to the specification. The amendments to the specification are made by presenting marked up replacement paragraphs which identify changes made relative to the immediate prior version.

The changes made are primarily typographical or grammatical in nature, or involve minor clarifications of awkward wordings.

In particular, on page 21 of the specification, information related to certain application numbers has been amended.

Applicant believes these changes add no new matter to the application and are fully supported by the original disclosure.

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Claim Rejections – 35 USC 103:

In the Office Action, the Examiner rejected claims 1-2, 8, 10-12, 26-27, and 31 under 35 U.S.C. §103(a) as being unpatentable over Paulraj et al. ("Paulraj") in view of van Nee ("van Nee"), rejected claim 4 under 35 U.S.C. 103(a) as being unpatentable over Paulraj and van Nee and further in view of Cimmini et al. ("Cimmini"), and rejected claims 19-21, 24, 34, and 36 under 35 U.S.C. 103(a) as being unpatentable over Paulraj in view of Laroia ("Laroia"). The rejections, as they relate to the pending claims, are respectfully traversed for the following reasons.

With reference to independent claims 1, 26, and 31, the prior art of record including Paulraj and van Nee does not teach or suggest certain claimed features.

In particular, with reference to independent claim 1, the prior art of record including Paulraj and van Nee does not teach or suggest the claimed feature "deriving a metric for an **equivalent channel** based on the set of parameters and the one or more estimated channel characteristics" (emphasis added) as set forth in lines 5-6 of the claim.

According to the Examiner, Paulraj teaches the use of training unit 70 to establish equivalent channel characteristics, see the line bridging pages 3-4 of the Office Action. However, it is respectfully submitted that Paulraj does not teach using the training unit 70 to establish equivalent channel characteristics. Instead, Paulraj teaches that the training unit 70 is used to transmit training data which can be sent in a separate control channel or together with data 52, see col. 9, lines 14-21. A matrix channel estimator 84 estimates the channel coefficients using known training patterns, e.g., the training patterns provided by training unit 70, see col. 9, lines 32-35 of Paulraj. Hence, Paulraj teaches using the training unit 70 in conjunction with matrix channel estimator 84 to establish channel characteristics for the communication channel being used by the system and **not for the equivalent channel as claimed**.

With reference to independent claim 26, the prior art of record including Paulraj and van Nee does not teach or suggest "a receiver unit comprising" "a rate selector operative to ... indicate whether or not the particular rate is supported by the communication channel based on the metric and the threshold signal quality" as set forth in lines 8-10 of the claim.

Paulraj discloses a receiver 80 that includes a "signal statistics unit 90 [that] analyzes receive signals RS<sub>j</sub> converted to k streams by receive processing block 86 to assess the quality parameter," see col. 9, lines 58-60. Paulraj further discloses a transmit unit 50 that "employs the

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quality parameter or parameters as described above to adjust at least the number of k of spatial-multiplexed streams SM<sub>i</sub> generated by serial to parallel converter 58 of transmit unit 50," see col. 10, lines 47-51. Hence, Paulraj discloses a quality parameter determined at a receiver that is then transmitted to a transmitter for adjusting a number of streams and there is no structure at the receiver to "indicate whether or not the particular rate is supported by the communication channel based on the metric and the threshold signal quality."

Similarly, with reference to independent claim 31, the prior art of record including Paulraj and van Nee does not teach or suggest the claimed feature "means for indicating whether or not the particular rate is supported by the communication channel based on the metric and the threshold signal quality" as set forth in lines 10-11 of the claim.

As discussed above with respect to claim 26, Paulraj discloses a quality parameter determined at a receiver that is then transmitted to a transmitter for adjusting a number of streams and there is no structure at the receiver for "indicating whether or not the particular rate is supported by the communication channel based on the metric and the threshold signal quality."

Allowable Subject Matter:

As indicated above, allowed claim 13 has been amended to correct minor informalities with the claim and is still deemed allowable.

Independent claim 19 has been amended by incorporating the allowable subject matter of dependent claim 25 and therefore, is deemed allowable along with its dependent claims. Similarly, independent claims 34 and 36 have been amended in a similar manner and therefore, are deemed allowable along with their respective dependent claims.

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## REQUEST FOR ALLOWANCE

In view of the foregoing, Applicant submits that all pending claims in the application are patentable. Accordingly, reconsideration and allowance of this application are earnestly solicited. Should any issues remain unresolved, the Examiner is encouraged to telephone the undersigned at the number provided below.

Respectfully submitted,

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